1. RUMYANTSEVA, V. I. LIPKOVICH, I. G.

2. USSR (600)

4. Public Health

7. Results of activities of a sanitary-epidemiologic station. Sov.zdrav. No. 6 - 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

DOBYCHIN, B.D., professor; SHIPACHEV, V.G., professor; SINAKEVICH, N.A., professor; KOLCHENOGOV, P.D., dotsent; SENCHILLO, Z.T., dotsent; KAVRICHKOVA, R.M., assistent; STANKEVICH, M.V., assistent; FOMINA, V.M., assistent; RUMYANTSEVA, V.I., assistent.

In memory of K.P.Sapozh'ov. Khirurgiia no.8:86 Ag '53. (MLRA 6:9)
(Sapozhkov, Konstantin Petrovich, 1874-1952)

RUMYANTSEVA, V.M.

Changes in yeast cells after deep cooling in water, brewer's wort and glycerol. Tsitologiia 5 no.3:328-331 My-Je '63.
(MIRA 17:5)

1. Laboratoriya kosmicheskoy biologii Instituta tsitologii AN SSSR, Leningrad.

RUMYANTSEVA, V.M.; TRIBIS, Zh.M.

Effect of deep cold on respiring yeast cells. TSitologiia 7, no.5:650-652 S-O '65. (MIRA 18:12)

1. Laboratoriya kosmicheskoy biologii Instituta tsitologii AN SSSR, Leningrad. Submitted July 11, 1964.

RUMYANTSEVA, V.M.

USSR/Forestry - Forest Plants. K-5

Abs Jour : Ref Zhur - Biol., No 2, 1958, 5908

Author : Khritsteva, L.A., Ponomarenko, V.G., Rumyantseva, V.M., Kotlyuba, V.G.

Inst : Kherson Agricultural Institute

Title : The Influence of Humic Acid on the Growth of Pines in Nurseries and Tree Plantations Set out in the Autumn on the Lower Dnepr Sands.

Orig Pub : Nauchn. zap. Khersonsk. s.-kh. in-t, 1957, No 6, 125-133

Abstract : In order to explain the effect of humic acid on the quality of planted material, experiments were conducted in 1953 in the Golopristanskiy Forest Economy, Khersonskaya oblast', in the nutrition of common pines which had not attained full growth. Sodium humate in a 0.001% concentration was used as a humic fertilizer. It was applied by

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Biol., No 2, 1958, 5908

sprinkling, on April 15 and May 15, and after this it was combined with nutrition by mineral fertilizers. It was determined that with application of NP and NP plus humic acid the output of first-class seedlings was higher, as was the growth of the pines in the nursery. The applications of humic acid and the high quality of the planted material were manifested in the growth increase. Seedlings of the first and second qualities gave the greatest growth increases. NP plus humic acid not only permits the accumulation of sol elements but enables them to pass into the roots and stems. It was determined that when pines are planted by the peat-nest method on sand dunes, adding humic acid increases the adaptability of all three sorts of seedlings; however, a greater effect was noted in the seedlings of the first sort. In the plantings the best growth of vegetative mass and roots derived from an intensification of the microbiological processes in the

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USSR/Forestry - Forest Plants.

Abs Jour : Ref Zhur - Biol., No 2, 1958, 5908

zone around the roots; this in turn resulted from the direct influence of the humic acid on separate groups of microorganisms.

RUMYANTSEVA, V. M.

process of drying and restoring ... Referat. Zh. Biol., 1956, ... rauch Inst. Lesgaft, 1955. 27. ... morphological altera- Abstr. No. 15703 ... are dried with a view to ... and some- ... granular ... plasm is also ... concentrates ... Chondriosomes ... Functional changes are not observed in dried ... morphological changes; ... and the ability of the yeast ... the cell is ... accounts ... the yeast. A le- ... and glycogen) is ... inclusions. Despite the ... cells, restoration of their alteration in structure and physiology ... favourable conditions. The viability takes place quite rapidly under ... most intensive processes of restoration, on the reactivation of dried yeast, take place in the cytoplasm; the nuclei gradually break up around the periphery of the furrowed chromatin mass or ring; chondriosomes appear only in cells where the protoplasm has become homogenous. Such cells are still darkly stained with Heidenhain. The initial chondriosomes appear very small, are contained in a small vesicle and are stained a delicate light blue with Janus Green. Later almost all the vesicles disappear and granular or rod shaped chondriosomes are observed in the cells. only those whose protoplasm can be stained light green with Acridine Orange, or black with Heidenhain are viable. To bring about refreshment of yeast in 4% saccharose, 30% yeast water can be added and an increase in viability rises by 30--50%. (Russian) C. PRINGLE

RUMYANTSEVA, V. M.

"The Effect of Deep Cooling on Free-Ranging Endomyces Magnusii Cells."
pp. 70

Institute of Cytology AS USSR Laboratory of Space Biology

II Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR. Tezisy Dokladov (Second Scientific Conference of the Institute of Cytology of the Academy of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,634

RUMYANTSEVA, V.M.

Effect of extremely low temperatures on fermenting cells of Endomyces magnusii. Sbor. rab. Inst. teit. no.4:54-65 '63
(MIRA 17:3)

ARISTOVSKAYA, T.V.; VLADIMIRSKAYA, M.Ye.; GOLLERBAKH, M.M.; KATANSKAYA, F.A.; KASHKIN, P.N.; KLUPT, S.Ye.; LOZINA-LOZINSKIY, L.K.; NORKINA, S.P.; RUMYANTSEVA, V.M.; SELIBER, G.L., prof.[deceased]; SKALON, I.S.; SKORODUMOVA, A.M.; KHETAGUROVA, F.V.; CHASTUKHIN, V.Ya.; PARSADANOVA, K.G., red.; GARINA, T.D., tekhn. red.

[Comprehensive laboratory manual on microbiology] Bol'shoi praktikum po mikrobiologii. [By] T.V.Aristovskaia i dr. Pod obshchei red. G.L.Selibera. Moskva, Vysshaia shkola, 1962. 490 p. (MIRA 16:3)

(MICROBIOLOGY--LABORATORY MANUALS)

86893

S/056/60/039/005/009/05
B029/B077

24.6900

AUTHORS: Barmin, V. V., Krestnikov, Yu. S., Pershin, I. I., Rumyantseva, V. P., Shalamov, Ya. Ya., Shebanov, V. A.

TITLE: The Asymmetry in the Decay of Λ^0 Hyperons Produced by Negative Pions With a Momentum of 2.8 Bev/c and Observed in a Freon Bubble Chamber

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1229-1231

TEXT: The distribution of decay products of Λ^0 particles with respect to their production level is described by $W(\xi)\, d\xi \sim (1 + \alpha\bar{P}\xi)d\xi$; the asymmetry coefficient α denotes the degree of non-conservation of parity during the decay of Λ^0 partieles; $\bar{P}$ denotes the average polarization of the hyperon over all directions of Λ^0, and the following relation is valid too: $\vec{\xi} = \left[\left[\vec{p}_{\pi prim}\ \vec{p}_{\Lambda}\right]\vec{p}_{\pi decay}\right]$. $\vec{p}_{\Lambda}$, $\vec{p}_{\pi prim}$, and $\vec{p}_{\pi decay}$ are the unit vectors of the momenta of the Λ^0 particle, the primary and the "decay pions". In general, $\alpha\bar{P}$ is calculated from the formula $\alpha\bar{P} = 2(N_{\uparrow} - N_{\downarrow})/(N_{\uparrow} + N_{\downarrow})$.

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The Asymmetry in the Decay of Λ^0 Hyperons Produced by Negative Pions With a Momentum of 2.8 Bev/c and Observed in a Freon Bubble Chamber

S/056/60/039/005/009/051
B029/B077

$N_\uparrow$ and $N_\downarrow$ denote the number of pions leaving the production level in an upward or downward direction. The values of $\alpha \bar{P}$ at energies above 1 Bev permit conclusions about the polarization of Λ^0 hyperons produced at these energies. Therefore, the authors investigated the asymmetry in the decay of Λ^0 hyperons which were produced on light nuclei by negative pions with a momentum of (2.8 ± 0.3) Bev/c in a 17-liter Freon bubble chamber without a magnetic field. The measurements were made with a beam of negative mesons of the proton synchrotron of OIYaI (Joint Institute of Nuclear Research). For negative pions with a momentum of 2.8 Bev/c, Λ^0 particles were produced mainly according to the reaction $\pi^- + N \rightarrow \Lambda^0 + K + n\pi$, and a preliminary estimate yielded $\bar{n} \approx 1.5$. The first examination of about 60,000 stereophotos showed about 1200 "forks" at the end of pion tracks. 183 Λ^0 decays were selected, of which 165 refer to the production of Λ^0 particles by Freon (that is, by nuclei of C,F,Cl). 18 cases refer to production by a propane-xenon mixture, that is, by nuclei of H, C, Xe. The average momentum of the Λ^0 particles used for the measurement was 650 Mev/c in the laboratory system. Results of αP measurement:

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The Asymmetry in the Decay of Λ^0 Hyperons Produced by Negative Pions With a Momentum of 2.8 Bev/c and Observed in a Freon Bubble Chamber

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Filling material of the chamber	Total number of Λ^0 decays	Number of negative pions produced by the decay of a Λ^0 hyperon emitted			$\alpha\bar{P}$
		upward	downward	on the producing level	
Freon	165	67	95	3	-0.34 ± 0.16
Xenon-propane	18	9	8	1	$+0.12\pm0.47$
Total number of cases	183	76	103	4	-0.30 ± 0.15

The systematic errors are below 20%. The value of $\alpha\bar{P}$ is most likely negative during the decay of hyperons which gives rise to 3-Bev negative pions. This could be caused by the change of sign of the polarization during the transition from 1 Bev to higher energies of the negative pions produced. But the statistical accuracy of this investigation is not adequate for a definite statement. The authors thank A. I. Alikhanov, A. G. Meshkovskiy,

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S/056/60/039/005/009/051
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The Asymmetry in the Decay of Λ^0 Hyperons Produced by Negative Pions With a Momentum of 2.8 Bev/c and Observed in a Freon Bubble Chamber

and I. Yu. Kobzarev for a discussion of the results obtained, V.I. Veksler for making possible the experiments with the proton synchrocyclotron in Dubna, the operators of the synchrocyclotron, and several laboratory assistants of OIYaI. There are 1 table and 8 references: 2 Soviet and 6 US.

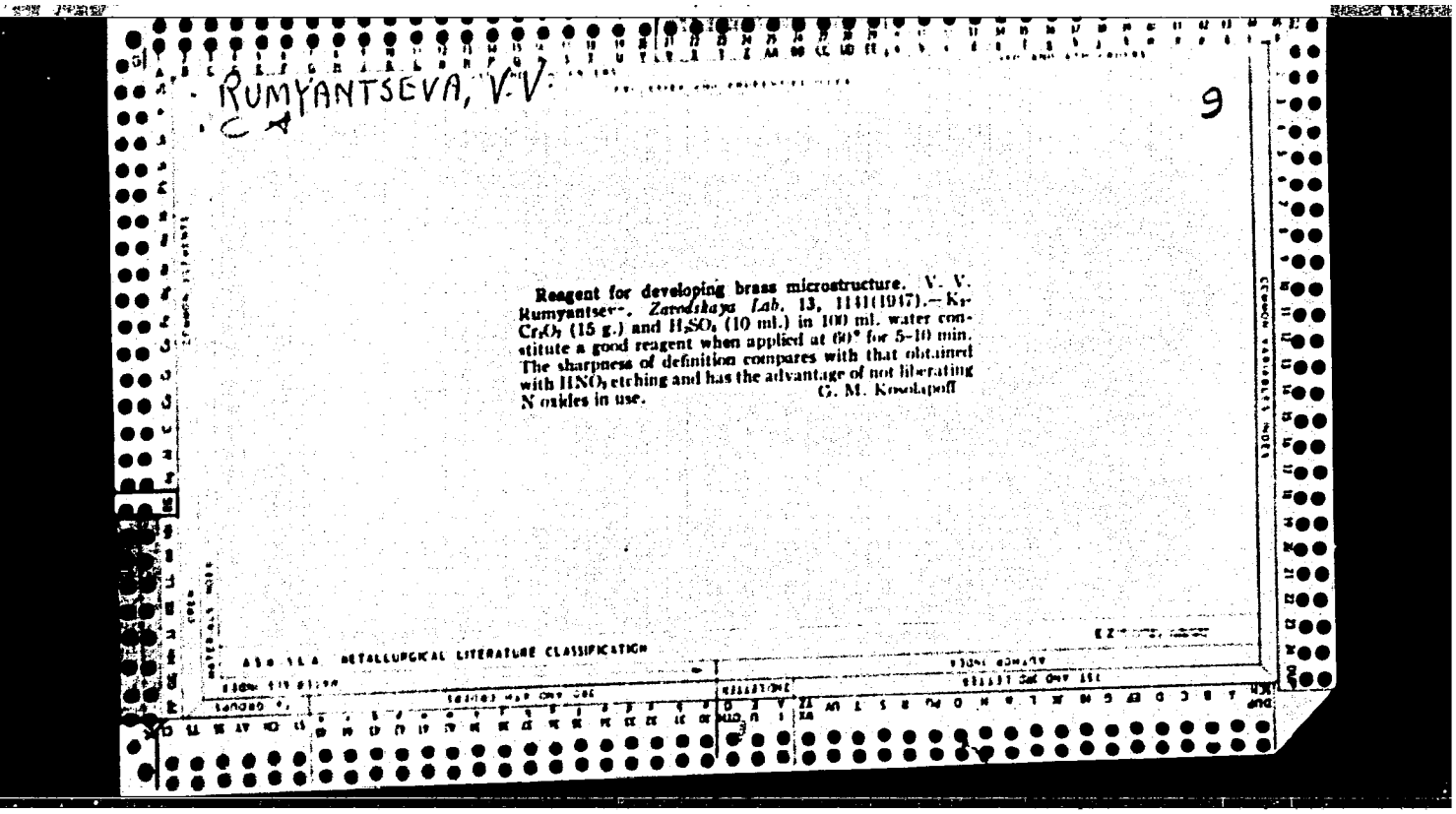
SUBMITTED: July 2, 1960

Card 4/4

BARMIN, V.V.; KRESTNIKOV, Yu.S.; PERSHIN, I.I.; RUMYANTSEVA, V.P.; SHALAMOV, Ya.Ya.; SHEBANOV, V.A.

Asymmetry in the decay of Λ^{o} -hyperons produced by 2.8 Bev./c π^{-}-mesons according to observations in a freon bubble chamber. Zhur.eksp.i teor.fiz. 39 no.5:1229-1231 N '60. (MIRA 14:4)

(Mesons—Decay)



RUMYANTSEVA, V.V.

CA

9

Reagent for developing brass microstructure. V. V. Rumyantseva. *Zavodskaya Lab.* 13, 1141(1947).—$K_2Cr_2O_7$ (15 g.) and H_2SO_4 (10 ml.) in 100 ml. water constitute a good reagent when applied at 60° for 5–10 min. The sharpness of definition compares with that obtained with HNO_3 etching and has the advantage of not liberating N oxides in use. G. M. Kosolapoff

ASTIA METALLURGICAL LITERATURE CLASSIFICATION

YERSHOVA, I.N., kand. med. nauk; RUMYANTSEVA, V.V.

Pulmonary complications in patients with acute surgical diseases of organs of the abdominal cavity under various methods of anesthesia. Trudy Inst. im. N.V. Sklif. 9:214-217 '63. (MIRA 18:6)

1. Leningradskiy nauchno-issledovatel'skiy institut skoroy pomoshchi imeni Dzhanelidze.

PAL'CHEVSKAYA, M.I., dots., KURKANTSEVA, V.V.

Effect of certain analgesics on the course of acute suppurative inflammation. Trudy IKI 2:85-97 '55 (MIRA 11:8)

1. Kafedra farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) i kafedra patologicheskoy anatomii (zav. - prof. M.A. Zakhar'yevskaya) Pervogo Leningradskogo meditsinskogo instituta imeni akademika I.P. Pavlova.
(ANALGESICS)
(ANTIPHLOGISTICS)

RUMYANTSEVA, V. V.

RUMYANTSEVA, V.V.

Inflammatory proliferation of the gastric epithelium in white rats. Biul. eksp.biol. i med. 37 no.4:67-69 Ap '54. (MLRA 7:7)

1. Iz kafedry pathologicheskoy anatomii (zav. prof. M.A.Zakharyevskaya) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.
(STOMACH, diseases,
*exper. inflamm. proliferation of epithelium in white rats)

MALAN'IN, M.I.; KRUPENINA, A.P.; CHERKASHINA, M.M.; RUMYANTSEVA, V.V.: SHVETSOV, G.F., red.; SERGEYEVA, N.A., red. izd-va; GUROVA, O.A., tekhn. red.

[Concentration of diamond-bearing bedrock and sand] Obogashchenie almazosoderzhashchikh korennykh porod i peskov. By M.I.Malan'in i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 242 p. (MIRA 14:10)
(Diamond mines and mining) (Ore dressing)

PADVA, G.D.; PEREKALIN, V.V.; RUMYANTSEVA, Ye.G.

Reactions of diketenes. Part 6: Interaction of diketene with some hydroxy compounds of the biphenyl series. Zhur.ob.khim. 34 no.1:102-105 Ja '64. (MIRA 17:3)

1. Leningradskiy pedagogicheskiy institut imeni A.I.Gertsena.

BOGATYREV, Yu.M., kand.tekhn.nauk; RUMYANTSEVA, Ye.I., inzh.

Industrial use of induction heating in foreign countries. [Trudy] TSNIITMASH 89:17-19 '59. (MIRA 12:4)
(Induction heating)

25(1) PHASE I BOOK EXPLOITATION SOV/1891

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Elektrotermicheskaya obrabotka i elektroiskrovoye uprochneniye detaley; [sbornik] (Electric Heat Treatment and Electrospark Hardening of Parts; Collection of Articles) Moscow, Mashgiz, 1958. 214 p. (Series: Its: [Trudy] kn. 89) Errata slip inserted. 5,600 copies printed.

Ed.: I.Yu. Miloslavskiy, Engineer (Deceased); Ed. of Publishing House: I. Yu. Geller; Tech. Ed.: A. F. Uvarova; Managing Ed. for Literature on General Technical and Transport Machine Building (Mashgiz): K.A. Ponomareva, Engineer.

PURPOSE: This collection of articles is intended for engineering staffs of plants and scientific research institutes dealing with electric heating, electric heat-treatment, and electrospark hardening of metals.

COVERAGE: This collection of articles presents the results of scientific research work carried out by the Department of TsNIITMash (Central Scientific Research Institute of Technology and Machinery) on electric heating in the field of high

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and industrial-frequency heating and electrospark hardening of machine parts. The process of surface hardening, through hardening and tempering of steel and cast iron using induction-heating and electrospark methods, and the results of investigation of the effects of electric-heat treatment and electrospark hardening on the properties of steel and cast iron are described. A brief review of industrial applications of induction heating outside the Soviet Union are also presented. Various electric-heating and electrospark hardening equipment developed by TsNIITMash are described. The book was written for the 20th anniversary of the scientific research work of TsNIITMash, Department of Electric Heating.

TABLE OF CONTENTS:

metals, and development of new equipment and modernizing old types of equipment and apparatus.

Electric Heat Treatment (Cont.) SOV/1891

The author describes construction of two apparatus, the IAS-2M and IAS-3M developed by TsNIITMash for electrospark hardening of steel surfaces. Technical specifications for both are given, and directions for operating the machines and results that can be obtained with them are included.

AVAILABLE: Library of Congress

GO/fal
8-3-59

Card 8/8

RUMYANTSEVA, YE.I.

AUTHOR: Kleshchevnikova, S.I., Pokrovskiy, Ya.Ye. 57-8-1/36
Rumyantseva, Ye.I.

TITLE: Preparation of Pure Si by the Thermal Decomposition of Silane (Polucheniye chistogo kremniya termicheskim razlozheniyem silana)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 8, pp. 1645-1648 (USSR)

ABSTRACT: The method as well as the apparatus are described, Monosilane was produced by means of the disproportionation of triethoxisilane in presence of metallic sodium and was subjected to thermal decomposition after a simplest kind of purification. The decompsition was carried out on a tantalum band which was heated with current to 950°. The bark of polycrystalline Si forming on this occasion can be separated from tantalum in form of a bar. The bar can be used for a zonal recrystallization. The monocrystals obtained after a zonal melting of the Si bars without crucibles have a specific electric resistance of up to 50 Ohm per cm and a life of the electrons not in equilibrium of up to 300 μsec. There are 2 figures and 2 Slavic references.

ASSOCIATION: Moscow State University im. M.V.Lomonosov (Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova)

AVAILABLE: Library of Congress

Card 1/1

POKROVSKIY, Ya.Ye.; KLESHCHEVNIKOVA, S.I.; RUMYANTSEVA, Ye.I.

Some improvements in the production of pure silicon by the thermal decomposition of silane. Fiz. tver. tela 1 no.6:999-1001 Je '59. (MIRA 12:10)

1.Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tet.
(Silicon) (Silane)

S/191/62/000/012/007/015
B101/B186

AUTHORS: Volkov, V. L., Kafyrov, M. I., Kleshchevnikova, S. I., Rumyantseva, Ye. I.

TITLE: Synthesis of triethoxy silane

PERIODICAL: Plasticheskiye massy, no. 12, 1962, 28-29

TEXT: Triethoxy silane is synthesized by bringing trichlorosilane into reaction with ethanol at 25-30°C without using a solvent. The following conditions must be satisfied: (1) In the reaction, the component ratio must be strictly adhered to. The volume ratio indicated is: $SiHCl_3:C_2H_5OH=1:1.75$. (2) The water content of the ethanol must be less than 0.2%. (3) The hydrogen chloride formed must be evacuated rapidly from the reaction vessel. This was secured by passing through nitrogen at a rate of 1-1.5 l/min per liter of reacting liquid, by increasing the nitrogen rate to 3-4 l/min when the introduction of components was completed, and by heating to 50°C when the Cl content of the reaction mixture had reached 7%. The flow of nitrogen was stopped when the Cl content dropped below

Synthesis of triethoxy silane

1%. The product was rectified. Yield 85%. The losses in $SiH(OC_2H_5)_3$ are due to the entrainment of reaction products in the HCl and N_2 currents ($\sim$ 5%), to side reactions (7-10%) and to rectification losses ($\sim$ 1%). There are 1 figure and 1 table.

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L 5193
S/191/63/000/001/006/017
B101/B186

AUTHORS: Kleshchevnikova, S. I., Levina, Ye. F., Rumyantseva, Ye. I.

TITLE: Purification of tri- and tetraethoxysilanes from chlorine-containing compounds

PERIODICAL: Plasticheskiye massy, no. 1, 1963, 25-26

TEXT: Chlorine-substituted silanes which readily hydrolyze, reducing the stability of the finished product and corroding the apparatus, are formed as by-products in the synthesis of tri- and tetraethoxysilanes from chlorosilane and ethanol. To eliminate them, it is suggested that bubbling with N_2 which removes most of the resulting HCl should be followed by bubbling with anhydrous NH_3 gas. Triethoxysilane with a chlorine content of 1.2-1.5% was bubbled in a mixer with NH_3, taking 20-25% more NH_3 than required to bind the Cl. Amino compounds were formed as follows:
$HSi(OC_2H_5)_{3-n}Cl_n + nNH_3 \longrightarrow HSi(OC_2H_5)_{3-n}(NH_2)_n + nNH_4Cl$. The reaction

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Purification of tri- and ...

mixture remained in the vessel for 1.5-2 hrs to polymerize the amine precipitate, and was then filtered. The filtrate was fractionated. The fraction boiling at 131-134°C consisted of pure $HSi(C_2H_5)_3$ and contained neither chlorine nor nitrogen. Commercial tetraethoxysilane containing 0.5% Cl was purified in the same manner.

KLESHCHEVNIKOVA, S.I.; DUBROVSKAYA, G.A.; RUMYANTSEVA, Ye.I.

Reaction of triethoxysilane with ethyl alcohol. Plast. massy no.3:14-16 '65. (MIRA 18:6)

KLESHCHEVNIKOVA, S.I.; DUBROVSKAYA, G.A.; RUMYANTSEVA, Ye.I.

Study of the reaction of triethoxysilane with hydrogen chloride.
Plast. massy no.4:21-24 '65. (MIRA 18:6)

YELISEYEVA, L.Ye.; ZHOROV, Yu.M.; PANCHENKOV, G.M.; RUMYANTSEVA, Ye.I.

Kinetics of the disproportionation of triethoxysilane. Plast. massy no.5:18-19 '65. (MIRA 18:6)

L 1216-66 EWT(m)/EWP(j) RM

ACC NR: AP6003640 SOURCE CODE: UR/0078/65/010/010/2359/2362

AUTHOR: Vekhov, V. A.; Dudnik, Ye. P.; Rumyantseva, Ye. I.

ORG: none

TITLE: Hydrolysis of tetraethoxysilane

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 10, 1965, 2359-2362

TOPIC TAGS: hydrolysis, silane, hydrochloric acid, ammonia

ABSTRACT: The hydrolysis of tetraethoxysilane was studied at 24 and 50°C in the presence of small amounts of water (tetraethoxysilane : : water = 25:1) at HCl concentrations of 2.66 to 1000 mg-mol/l and NH_3 concentrations of 0.182 to 0.82 g-mol/l. The composition of products and the kinetics of hydrolysis were studied by chromatographically determining the alcohol yield in samples withdrawn from the reaction at different times and analyzing the precipitate of the reaction products. The following reaction is given for the hydrolysis:

$$Si(OC_2H_5)_4 + 3H_2O \xrightarrow[NH_3]{HCl} 3C_2H_5OH + Si(OH)_3C_2H_5O$$

The reaction does not go to completion in either the acidic or the al-

UDC: 542.938 : 546.287

Card 1/2

ACC NR: AP6003640

kaline medium, and stops at the formation of ethoxysilanol. It is a zero order reaction as indicated by the unchanging value of its rate constant with time. However, the rate constant increases with HCl and NH_3 concentration and with rising temperature. The activation energy of the reaction was calculated to be 6.3 kcal/mol. Orig. art. has: 3 figures, 3 tables, 2 formulas.

SUB CODE: 07/ SUBM DATE: 30Jul64/ ORIG REF: 004/ OTH REF: 000

Card 2/2

KUMYANTSEVA, Ye.P.

Changes of the morphological composition of the blood due to inhalation of extraline in acute and chronic experiments. Trudy GIGT no.9:58-70 '62. (MIRA 17:9)

BONGARD, E.M.; FAYERMAN, I.S.; RUMYANTSEVA, Ye.P.

Chronic intoxication with methyl chloride. Trudy GIOT no.9:101-109 '62. (MIRA 17:9)

TRABER, D.G.; MUKHLENOV, I.P.; RUMYANTSEVA, Ye.S.

Kinetics of oxidation of sulfur dioxide in a suspended catalyst bed. Trudy LTI no.54:53-62 '59. (MIRA 13:8)
(Sulfur dioxide) (Oxidation) (Catalysis)

TRABER, D.G.; RUMYANTSEVA, Ye.S.; MUKHLENOV, I.P.

Effect of the particle size of a nanadium catalyst in a suspended bed on its activity during the oxidation of sulfur dioxide. Trudy LTI no.54:47-52 '59. (MIRA 13:8)
(Sulfur dioxide) (Oxidation) (Catalysis)

24000
S/080/61/034/006/001/020
D247/D305

AUTHORS: Mukhlenov, I.P., Traber, D.G., Rumyantseva, Ye.S., and Pomerantsev, V.M.

TITLE: Hydrodynamics of a fluidized catalyst bed under high pressure

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 6, 1961, 1181 - 1185

TEXT: With a continuous expansion of the chemical industry and increased demands for natural and synthetic gases, it has been found necessary to study more closely conversions and syntheses, based on monoxide, carried out in a fluidized bed, and to confirm the existing hydrodynamic equations for processes conducted under pressures exceeding 70 atm. in order to obtain data for more efficient construction of plants. The investigations were carried out with a gas mixture normally used in methanol synthesis under pressures of 1 - 330 atm. temperature 15-20°C using spherical gra-

Card 1/4

Hydrodynamics of a ...

nules of catalyst of variable particle size, 0.75 - 4.5 mm. The experiments considered of measuring, under different conditions, the hydraulic resistance of the fluidized bed, Δp, determining critical velocity of gas corresponding to the transition of the solid from stationary to fluidized state, apparent gas velocity $W_{f'}$ being calculated instead of real W_f, and determining the specific height of the fluidized bed H_{sp} in terms of a ratio of heights of bed in fluidized, H, and stationary, H_o, states. Under high pressures Δp has been found to exceed, in all cases, the ratio of the weight of the contact mass to the cross sectional area of the apparatus by 20 - 35 % and the final equation for Δp has been established as follows:

$$\Delta p = H_o(\gamma_T - \gamma_\Gamma)(1 - \varepsilon_o)$$

($\gamma_T - \gamma_S$ and $\gamma_\Gamma - \gamma_G$) where γ_S and γ_G - density of solid and gaseous phases; ε and ε_o - porosity of fluidized and stationary beds;

Card 2/4

and c - the coefficient of resistance of the fluidized bed. For pressures of 50 - 230 atm the coefficient c showed a slight increase corresponding to 1.2 - 1.35 depending upon the particle size of the solid. The critical velocity of gas has been found to decrease with the increasing pressure, the effect being more pronounced for larger particles (d = 3.5 mm). The experimental results were worked out according to A.I. Rychkov, and N.A. Shakhova (Ref. 5: I.F.Zh. II, 9, 92, 1957) and who used equations (Ref. 6: O.M. Todes, and A.K. Bondareva, Khim. nauka i prom. II, 2, 223, 1957) [Abstractor's note: Equations not given] and for lower pressures showed good agreement with the latter. For higher pressures 50 - 230 ats, Pomerantsev submitted the following equation

$$Re_e = 1.3\ Ar_e^{0.5},$$

where Re_e - Reynolds number and -

24000
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D247/D305

Hydrodynamics of a ...

$$Re_{...} = \frac{w_{...B} \cdot d_e}{\nu} \qquad Ar_e = (1 - \varepsilon_0)\frac{g d_e^3}{\nu^2}\cdot\frac{\gamma_g - \gamma_g}{\gamma_g}$$

... Archimedes number and d_e ... equivalent channel diameter (m) determined by Rykha...'s method, ν ... kinetic viscosity coefficient (m^2/sec), g ... acceleration due to gravity. This equation is represented graphically. The experiments also established that intensive working of the ... mass is achieved for gas velocities corresponding to Re_{sp} ... 2.0 as under such conditions the solid mass is subjected ... high turbulence while still maintaining a sufficiently high concentration of catalyst in the working space. There are 5 figures, 1 table and 6 Soviet-bloc references.

SUBMITTED: November 29, 1960

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MUKHLENOV, I.P.; TRABER, D.G.; SARKITS, V.B.; RUMYANTSEVA, Ye.S.; MIKHALEV, M.F.; SHMEKKER, Ya.M.; CHERNYAK, M.A.

Testing an apparatus for the oxidation of concentrated sulfur sioxide in a fluidized catalyst bed. Khim.prom. no.11:770-775 N '61. (MIRA 15:1)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, i Leningradskiy zavod "Krasnyy khimik".
(Chemical apparatus) (Sulfur dioxide)
(Catalysis)

ANOKHIN, V.N.; TRABER, D.G.; MUKHLENOV, I.P.; RUMYANTSEVA, Ye.S.

Conversion of carbon monoxide in a suspended catalyst bed. Trudy LTI no.54:37-46 '59. (MIRA 13:8)
(Carbon monoxide) (Catalysis)

RUMYANTSEVA, Ye.S.

MUKHLENOV, I.P.; TRABER, D.G.; RUMYANTSEVA, Ye.S.

Reply on the remarks of IAroslav Beranek and Ivan Klumpar. Khim. prom. no.1:43-44 Ja-F '57. (MLRA 10:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Fluidization)

MUKHLENOV, I.P., kandidat tekhnicheskikh nauk; TRABER, D.G., kandidat tekhnicheskikh nauk; RUMYANTSEVA, Ye.S.

Using a suspended layer of the catalyst in the oxidation of sulfur dioxide. Khim.prom. no.8:457-460 D '55. (MLRA 9:5)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Sulfur dioxide) (Catalysts)

FEDOROVA, N.I.; TAV'YEV, B.M.; RUMYANTSEVA, Ye.V.

Studies on the duration of postvaccinal immunity in Q fever. Zhur.mikrobiol.epid.i immun. 31 no.9:30-32 S '60. (MIRA 13:11)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR i Saratovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(Q FEVER)

FEDOROVA, N.I.; TAV'YEV, B.M.; RUMYANTSEVA, Ye.V.

Specific vaccination against Q fever. Zhur. mikrobiol. epid. i immun. 29 no.8:75-80 Ag '58. (MIRA 11:10)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR i Saratovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(Q FEVER, prev. & control.
vacc. (Rus))

UL'YANOV, A.I.; KAZAKOVA, T.I. ; RUMYANTSEVA, Ye.Ya.

Interaction of cerium (III) sulfate with orthophosphoric acid and its sodium salts in an aqueous solution at 25°C. Izv. AN SSSR. Otd.khim.nau no.11:1910-1920 N '62. (MIRA 15:12)

1. Institut obshchey i neorganicheskoy klimii im N.S. Kurnakova AN SSSR.

(Cerium sulfate) (Phosphoric acid)

PARSHUTIN, G.V., prof.; RUMYANTSEVA, Ye.Yu., nauchnyy sotrudnik; TESTOV, L.L., nauchnyy sotrudnik; YEVSEYEV, N.K., zootekhnik; NOVIKOVA, A.N., zootekhnik

Effect of some amino acids on sex formation in fowl. Zhivotnovodstvo 24 no.6:89-93 Je '62. (MIRA 17:3)

1. Vsesoyuznyy institut fiziologii i biokhimii sel'skokhozyaystvennykh zhivotnykh (for Parshutin, Rumyantseva, Testov). 2. Sovkhoz "Gorki - II" Moskovskoy oblasti (for Yevseyev, Novikova).

RUMYANTSEVA, Z., kandidat ekonomicheskikh nauk.

Civil aviation in Canada. Grazhd.av. 13 no.2:38-39 F '56. (MLRA 9:5)

(Canada--Aeronautics, Commercial)

RUMYANTSEVA, Z., kand. ekon.nauk.

Linear programming. Grazhd. av. 15 no.8:35-37 Ag '58. (MIRA 11:9)
(Linear programming) (Aeronautics, Commercial)

AUTHOR: Ruzyantseva, Z., Candidate of Economic Sciences SOV/84-58-8-52/59

TITLE: Linear Programming (Lineynoye programmirovaniye)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 8, pp 35-37 (USSR)

ABSTRACT: The article deals with the problem of economy in utilization of various aircraft on routes of various lengths. The problem acquires a specific importance with the introduction into service of new and expensive jet equipment. Specific operational characteristics such as speed, range, payload, efficiency, differ considerably from one type of aircraft to another and lead to different economic effects if operated on the same route. The author then discusses a mathematical method of planning air services in foreign countries known as "linear programming," which is a method for determining the minima and maxima of certain linear functions of a set of factors. The discussion is illustrated by analysis of a concrete example of an assumed operational unit serving a number of routes differing in length, with different number of stopovers and volume of traffic, by a number of different aircraft types. Through a number of steps the optimum assignment of aircraft to the routes is arrived at. The

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solution of the problem is carried out with the help of a set of tables. The author points out, however, that for solution of more complex problems involving many routes and aircraft types, calculating machines are necessary. Seven tables accompany the text.

RUMYANTSEVA, Z. A.

Mbr., Lab. Organic Chem. im. Zelinskiy, Moscow State Univ., -1941-.

Mbr., Inst. Organic Chemistry, Dept. Chem. Sci., Acad. Sci., -1947-.

"Hydrogenation of Butylbenzene Isomers by Means if Calcium-Ammonium," Zhur. Obshch. Khim., 15, No. 4-5-, 1945;

"The Catalytic Hydrigenation of the Cyclopentane Hydro-carbons with Ring Splitting: VII. Hydrogenation of Methylcyclopentane in the Presence of Platinized Charcoal or Nickel Deposited on Alumina," Iz. Ak. Nauk, SSSR, Otdel. Khim. Nauk, No. 2, 1947.

RUMYANTSEVA, Z. A. Cand. Chem. Sci.

Dissertation: "Catalytic Hydrogenation of Cyclopentane Hydrocarbons with Ring Splitting." Inst of Organic Chemistry, Acad Sci USSR, 30 Jan 47.

SO: Vechernyaya Moskva, Jan, 1947 (Project #17836)

RUMYANTSEVA, Z. A. PA 8T6

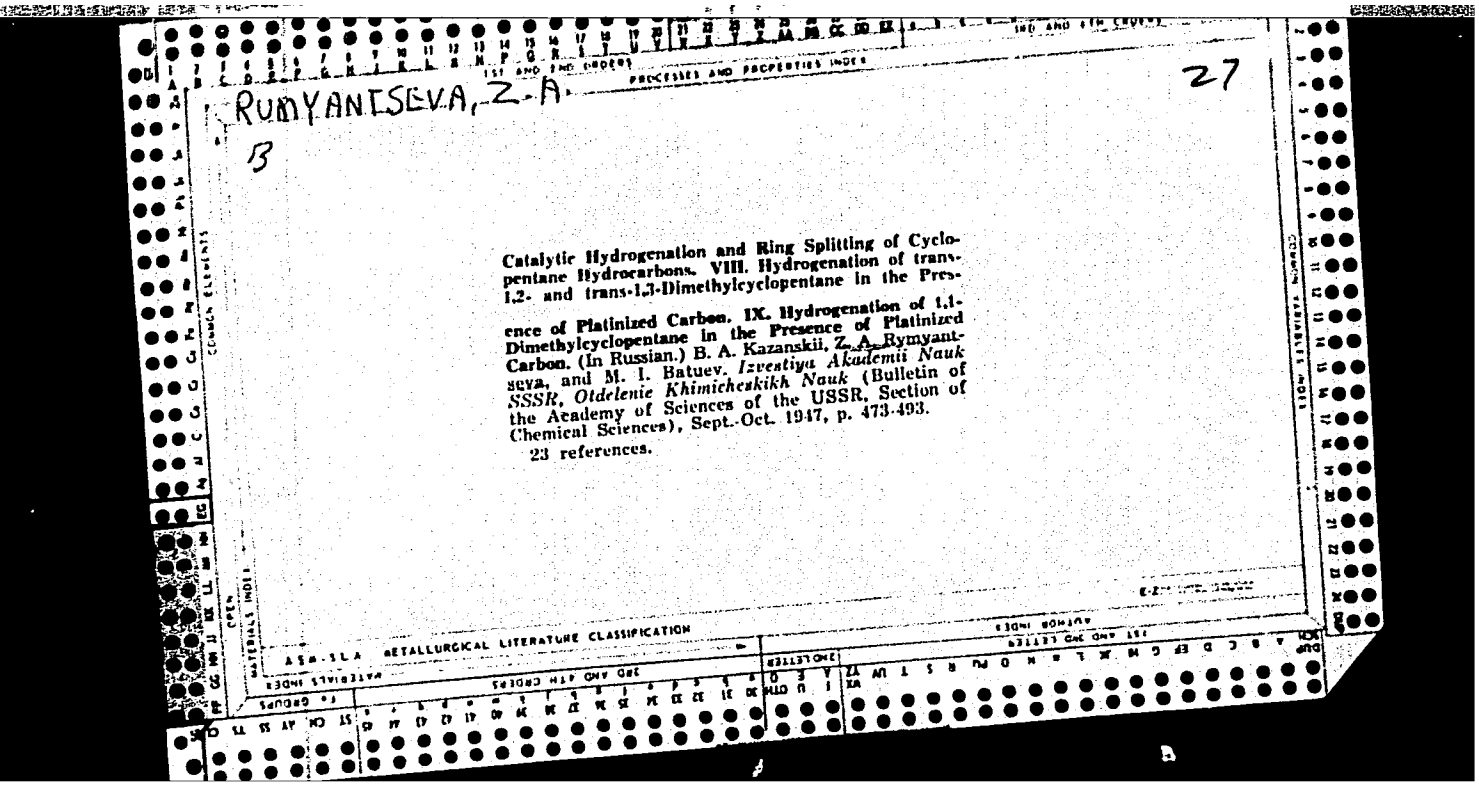
USSR/Chemistry - Catalysts, Hydrogenation Feb 1947
Hydrocarbons

"The Catalytic Hydrogenation of the Cyclopentane Hydrocarbons with Ring Splitting," B. A. Kazansky, Z. A. Rumyantseva, 8 pp

"Izv Ak Nauk Khim" No 2

Hydrogenation of methylcyclopentane in the presence of platinized charcoal or nickel deposited on alumina.

8T6



RUMYANTSEVA, Z. A.

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Catalytic Hydrogenation and Ring Splitting of Cyclopentane Hydrocarbons. VIII. Hydrogenation of trans-1,2- and trans-1,3-Dimethylcyclopentane in the Presence of Platinized Carbon. IX. Hydrogenation of 1,1-Dimethylcyclopentane in the Presence of Platinized Carbon. (In Russian.) B. A. Kazanskii, Z. A. Rymyantseva, and M. I. Batuev. *Izvestiya Akademii Nauk SSSR, Otdelenie Khimicheskikh Nauk* (Bulletin of the Academy of Sciences of the USSR, Section of Chemical Sciences), Sept.-Oct. 1947, p. 473-493.

23 references.

RUMYANTSEVA, Z. A.

USSR/Chemistry - Hydrogenation
Chemistry - Hydrocarbons

Sep/Oct 1947

"Catalytic Hydrogenation of Cyclopentanic Hydrocarbons When the Cycle Is Interrupted, IX," B. A. Kazanskiy, Z. A. Rumyantseva, M. I. Batuyev, Inst Org Chem, Acad Sci USSR, 10 pp

"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5

Discusses dydrogenation of 1, 1-dimethylcyclopentane in presence of platinized carbon.

IA 53T5

CA

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Syntheses of *N*-pyrimidylamino acids. M. A. Prokof'ev and Z. A. Rumyantseva (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 75, 399-402 (1950). From 12 g. $ClCH_2CO_2H$ at 80° treated slowly with 9 g. 2-amino-4-chloro-6-methylpyrimidine, kept 30 min. at 110-15°, and washed with H_2O was obtained 21.1% *N-(4-chloro-6-methyl-2-pyrimidyl)glycine*, m. 200-2° (in a sealed tube) (from H_2O); boiling with 5% HCl 6 hrs. gives glycolic acid and *2-amino-4-hydroxy-6-methylpyrimidine*, m. 208°. $MeCHClCO_2H$ gave 29% of the *corresponding alanine deriv.*, m. 168° (from 30% EtOH), along with some 2-amino-4-hydroxy-6-methylpyrimidine. Boiling the alanine deriv. 20 min. with 0.1 *N* NaOH yields on acidification with HCl 70% *N-(4-hydroxy-6-methyl-2-pyrimidyl)-alanine*, decomp. 276° (from H_2O). Hydrolysis of the pyrimidine residue is almost quant. on boiling 6 hrs. with 5% HCl, while 5% NaOH in 18 hrs. hydrolyzes only 39% of the acid; among the hydrolysis products is found lactic acid. Similarly prepd. in 40% yield was *N-(4-bromo-6-methyl-2-pyrimidyl)alanine*, m. 158° (from 30% EtOH). 4-Amino-2-chloro-6-methylpyrimidine gave similarly *N-(2-hydroxy-6-methyl-4-pyrimidyl)glycine*, decomp. 255-60° (from 40% EtOH). The products may be readily titrated with phenolphthalein indicator. G. M. Kosolapoff

1951

RUMYANTSEVA, Z. A.

USSR /Chemical Technology. Chemical Products and Their Application I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31896

Author : Rumyantseva Z.A.

Inst : Academy of Sciences Tadzhik SSR

Title : Investigation of Petroleum of the Kzyl-Tumshuk Deposit

Orig Pub: Tr. AN TadzhSSR, 1955, 41, 37-43

Abstract: A study was made by the usual methods of the groupwise chemical composition of different fractions of high-sulfur Tadzhik petroleum. The gasoline-ligroin fractions are almost absent,

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USSR /Chemical Technology. Chemical Products and Their Application I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31896

their total yield being of about 4% on the basis of the petroleum, while the yield of kerosene is of about 6%. The wide gasoline-kerosene fraction of the petroleum contains (in % by weight): aromatic 39, methane series 33, naphthenic hydrocarbons 29. Octane ratings of the gasoline fractions are low. Mazuts do not meet the standards in viscosity and S-content. Oil fractions contain much S, solid paraffins, have a high setting point, specific gravity and a low viscosity index. The sulfur compounds of the petroleum appertain, essentially, to the class of heterocyclic compounds and

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USSR /Chemical Technology. Chemical Products and Their Application I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31896

the disulfides. The petroleum gives a large amount of bitumenum residues, soft and blown, the yield being, respectively, 47 and 30%, on the basis of the petroleum.

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Rumyantseva, Z. A.

USSR /Chemical Technology. Chemical Products and Their Application I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31949

Author : Rumyantseva Z. A., Gilimzanova F.M., Sterin Kh. Ye.

Inst : Academy of Sciences Tadzhik SSR

Title : Specific Hydrocarbon Composition of High-Sulfur Gasoline of Direct Distillation

Orig Pub: Tr. AN TadzhSSR, 1955, 41, 45-58

Abstract: The combined method of Landsberg-Kazanskiy for the study of specific hydrocarbon composition is applied in the study of gasoline obtained by

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USSR /Chemical Technology. Chemical Products and Their Application

I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31949

direct distillation of Tadzhik petroleum from the Kzyl-Tumshuk deposit. Forty two specific hydrocarbons have been identified, 10 of which were determined quantitatively; 4 specific hydrocarbons and a mixture of cyclopentane and 2,2-dimethyl butane, have been isolated, and the quantitave content of these hydrocarbons in the gasoline has been determined. As a result of adsorptive separation there have been isolated from the gasoline 15% of aromatic hydrocarbons, including about 5.5% toluene. It was found that the composition of the gasoline comprises mostly low-branching paraffin cyclopentane and cyclo-

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USSR /Chemical Technology. Chemical Products and Their Application I-16

Treatment of natural gases and petroleum. Motor fuels. Lubricants.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31949

hexane hydrocarbons with short, unbranched side chains. Sulfur compounds are concentrated in the aromatic portion of the gasoline.

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15-57-1-844

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, pp 132-133 (USSR)

AUTHORS: Rumyantseva, Z. A., Valiulina, F. M., Chayko, V. P.

TITLE: The Chemical Nature of High-Molecular Components in High-Sulfur Petroleum. Report I. Analysis of the Components of Petroleum in the Kzyl-Tumshukskoye Mestorozhdeniye (Field) (O khimicheskoy prirode vysokomolekulyarnykh komponentov vysokosernistykh neftey. Soobshcheniye 1. Analiz komponentov nefti Kzyl-Tumshukskogo mestorozhdeniya)

PERIODICAL: Tr. AN TadzhSSR, 1955, Vol 41, pp 59-68.

ABSTRACT: The authors have investigated the ligroin-kerosene and the butyric fractions of the high-kerosene and high-cosmoline oils from the Kzyl-Tumshukskoye field (Tadzhikistan) and the separated benzine fraction of the hydrocarbon part. It was determined that the principal components of the indicated distillates are

Card 1/2 the aromatic hydrocarbons and sulfur combinations,

The Chemical Nature of High-Molecular Components (Cont.)

constituting in all no less than 50 percent, and amounting to as much as 97 percent. The aromatic hydrocarbons are generally more abundant than the sulfur combinations. The authors believe that the investigated oil is rich in natural sources of organic sulfur combinations. They present a series of graphs and tables of their analyses.

V. P. K.

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SERGIYENKO, S.R.; CHAYKO, V.P.; RUMYANTSEVA, Z.A.

Study of the petroleum high molecular weight compounds. Article 6: Composition and properties of the tarry portion of Kzyl-Tumshukskiy petroleum. Trudy Inst.neft. 8:52-59 '56.
(MLRA 9:10)

(Kzyl-Tumshukskiy--Petroleum--Analysis)
(High molecular weight compounds)

RUMYANTSEVA, Z.A.; VALIULINA, F.M.

Chemical nature of components of high molecular weight of highly sulfurous petroleum. Report no. 2. Analyzing the components of Khaudag petroleum. Izv. Otd. est. nauk AN Tadzh. SSR no.16:15-28 '56. (MLRA 10:4)

1. Institut khimii AN Tadzhikskoy SSR.
(Khaudag--Petroleum--Analysis)

RUMYANTSEVA, Z.A.;NUMANOV, I.U.

Chemical study of coals and petroleums of Tajikistan. Izv. Otd. est. nauk AN Tadzh. SSR no. 24:11-20 '57. (MIRA 11:10)

1. Institut khimii AN Tadzhikskoy SSR.
(Tajikistan--Coal--Analysis)
(Tajikistan--Petroleum--Analysis)

RUMYANTSEVA, Z.A.; MAMAYEVA, A.M.

Some data on coal from the Kurtekin deposit. Dokl.AN Tadzh. SSR 2 no.4:19-21 '59. (MIRA 13:4)

1. Institut khimii AN Tadzhikskoy SSR. Predstavleno akademikom AN Tadzhikskoy SSR A.P.Nedzvetskim.
(Pamirs--Coal)

KARAVAYEV, N. M. (Moskva); VENER, R. A. (Moskva); RUMYANTSEVA, Z. A. (Moskva); SHEVCHENKO, B. I. (Moskva); MAMAYEVA, A. M. (Moskva)

Effect of slow heating by ancient intrastratal fires on the composition and properties of Fan Yagnob coal. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:106-201 N-D '62. (MIRA 16:1)

(Tajikistan—Coal geology) (Coal—Testing)

RUMYANTSEVA, Z., kand.ekonomicheskikh nauk

Improving business accounting in operational subunits. Grazhd. av. 12 no.11:27-28 N '55. (MIRA 15:9)
(Air lines--Accounting)

NIKITIN, Vasiliy Ivanovich; RUMYANTSEVA, Z.A., otv.red.; VINOGRADSKAYA, S.N., red.izd-va; GELLER, S.P., tekhn.red.

[Tertiary glycerols of the acetylenic and ethylenic series and their transformations] Tretichnye gliterseriny atsetilenovogo i etilenovogo riadov i ikh khimicheskie prevrashcheniia. Dushanbe, Izd-vo Akad.nauk Tadzhikskoi SSR, 1961. 257 p. (Akademiia nauk Tadzhikskoi SSR, Dushanbe. Institut khimii. Trudy, vol.4). (MIRA 15:4)
(Glycerol) (Acetylene compounds) (Ethylene compounds)

KARAVAYEV, N.M.; RUMYANTSEVA, Z.A.; VALIULINA, F.M.; BURYAKOVA, E.P.

Semicoking of slightly caking and noncaking coal of the Fan-Yagnob deposit. Izv. Otd. est. nauk AN Tadzh. SSR no.3:27-38 '59. (MIRA 15:5)

1. Institut khimii AN Tadzhikskoy SSR.
(Ayni District—Coal—Carbonization)

KARAVAYEV, N.M.; RUMYANTSEVA, Z.A.; VOYNALOVICH, M.V.; REYMAN, I.V.

Chemical nature and properties of Kshtut-Zauran coals. Trudy Inst. khim. AN Tadzh. SSR 3:147-182 '60. (MIRA 14:12)
(Tajikistan--Coal--Analysis)

KARAVAYEV, N.M.; RUMYANTSEVA, Z.A.; VOYNALOVICH, M.V.

Laboratory investigation of the coking properties of Fan-IAgnob coals. Trudy Inst. khim. AN Tadzh. SSR 3:51-98 '60. (MIRA 14:12)
(Tajikistan--Coal--Analysis)

KARAVAYEV, N.M.; RUMYANTSEVA, Z.A.; SHEVCHENKO, B.I.; MAMAYEVA, A.M.

Chemical and petrographic composition and properties of the Fan-IAgnob coals and their relation with the initial conditions of accumulation and transformation of vegetable material. Report No. 1: Changes in the chemical and petrographic composition and properties of the Fan-IAgnob coals in connection with the strike of strata from the west to the east. Trudy Inst. khim. AN Tadzh. SSR 3:5-22 '60. (MIRA 14:12)
(Tajikistan--Coal geology)

KARABAYEV, N.M.; RUMYANTSEVA, Z.A.; BURYAKOVA, E.P.

Chemical composition of primary tar of caking coal from the Fan-Yagnob deposit. Izv. Otd. geol.-khim. i tekh. nauk AN Tadzh. SSR no.2:23-33 '61. (MIRA 15:1)

1. Institut khimii AN Tadzhikskoy SSR.
(Tajikistan--Coal tar)

AL'PEROVICH, L.I.; POMETUN, Ye.A.; RUMYANTSEVA, Z.A.; CHAYKO, V.P.

Luminescent agents in petroleum. Uch.zap.Tadzh.un. 18:88-94 '58.
(Luminescent substances) (Petroleum)

S/200/62/000/009/001/001
D204/D307

AUTHORS: Nikolayev, A.V., Rumyantseva, Z.G. and Levin, B.V.

TITLE: The utilization of salicylic acid for the purification and separation of thorium

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no. 9, 1962, 39-45

TEXT: The extraction of Th as the salicylate from solutions containing other ions was studied to collect information regarding the degree of purification of Th attainable by this method. Th could be quantitatively precipitated in the presence of Al, Ca, Mg, Mn, Pb, Ni, Cu and Cr, by salicylic acid, and without any coprecipitation of these elements. Ferric salicylate was however found to coprecipitate. At pH 4-5, addition of solid salicylic acid (A) to a solution containing 125 g U, 2.5 g Th, 0.25 g each of Mn, Pb, Ni, Cu, Mg and Cr, 1.0 g Al, 4.0 g Fe and 2.5 g Ca per liter resulted in a quantitative precipitation of Th and of Fe^{3+} salicylates. Pure Th salicylate could be obtained from a correspon-

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ding but Fe-free solution. Th could similarly be quantitatively separated from La, but only below pH 4 (~ 3.8). The recommended procedure for a quantitative separation of Th from U consists of dissolving the salts in HNO_3 or HCl, adjusting the pH to 3, boiling, adding 5 g of A per g of Th, boiling for a further 3-5 min, allowing the ppt to settle, adjusting the pH to 5, filtering in the hot, washing 5-6 times with hot aq.A, and igniting the salicylate to ThO_2. The salicylate dissolves in ether containing A, to an extent increasing with the A content in the ether, reaching 2.46% Th in ether containing 30% A (at 25°C). This may be utilized for the quantitative separation of equal amounts of Th and U, by extracting the precipitated Th salicylate with 20% ethereal A (without prior filtration) from a solution at pH 4-5. Similar separations were achieved from Zr^{95}, Cs^{137}, and Ru^{103}. Th salicylate may also be extracted with acetone (from aqueous solutions saturated with $CaCl_2$ to promote the formation of 2 layers), with quantitative separation from U, La and mesothorium I and II. Radiochemically pure Th^{232} was obtained by this method. There are 12 tables.

The utilization of salicylic acid ...

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Inorganic Chemistry of the Siberian Branch of the AS USSR, Novosibirsk)

SUBMITTED: December 19, 1961

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SOV/78-4-7-39/44

5(2), 21(0)

AUTHORS: Nikolayev, A. V., Kurnakova, A. G., Rumyantseva, Z. G.

TITLE: Some Data on the Chemistry of Protactinium (Nekotoryye dannyye po khimii protaktiniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1682-1686 (USSR)

ABSTRACT: The work carried out by the authors developed simultaneously with similar investigations carried out in foreign countries, so that parts of it have already been published elsewhere (Refs 1-3). In the present article results hitherto not published are given. The protactinium Pa^{233} was obtained by irradiation (20 h) of solid thorium nitrate. Its half-life was about 27 days. An investigation was carried out of the co-precipitation of Pa by thorium precipitates, by $MnO(OH)_2$, $Fe(OH)_3$, and other carriers, as well as of the behavior of Pa during extraction. Table 1 gives the data of the co-precipitation of Pa^{233} with thorium- and calcium precipitates (thorium oxycarbonate, - hydroxide, -peroxide, - oxalate, - iodate, -chromate, -salicylate, -fluoride, potassium-thorium sulfate,

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Some Data on the Chemistry of Protactinium

calcium oxalate and calcium carbonate). Thorium fluoride takes no Pa into the precipitate as shown by table 2. All precipitates mentioned are soluble in ammonium carbonate, where the entire activity of the Pa is dissolved. The method of "similar carriers" was used for the purpose of separating Pa from Th. It is based upon the precipitation of calcium oxalate of -carbonate from solutions of thorium bioxalate or -bicarbonate, i.e. on the reaction with the same anion. This method is applicable also to other active nuclei (e.g. splinter nuclei). The co-precipitation of Pa by manganese dioxide was already published in reference 1. Table 3 shows the results obtained by the authors. It shows that in the case of a single precipitation it is worth while to increase the quantity of the carrier substance to 5 mg/ml. In the case of a double precipitation 1 mg/ml will be sufficient. 2-3% of the Pa are not co-precipitated. Precipitation, however, becomes much more complete if initial intensity is increased. Table 4 shows the filling results obtained in the case of a primary activity of $1.06.10^8$ imp/min as against 10^6 imp/min shown in table 3. By using the complex formation with salicylic acid an extraction

Some Data on the Chemistry of Protactinium-

method was worked out. Extraction is carried out with acetone, and the acetone- and water phases are separated into component parts by means of a saturated $CaCl_2$-solution. A quantitative extraction with Th is carried out. By this method it is possible to extract also U(VI) and Pu(IV) and all 4-, 5-, and 6-valent elements. There are 4 tables and 3 references, 2 of which are Soviet.

SUBMITTED: February 11, 1958

S/186/61/003/003/018/018
E071/E435

AUTHORS: Nikolayev, A.V., Tikhomirov, V.I., Rumyantseva, Z.G. and Levin, B.V.

TITLE: Entrapment of Alkali Cations by Uranium Peroxide Precipitates

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.3, pp.372-373

TEXT: The authors investigated the entrapment of some cations of alkali metals during precipitation of uranium peroxide from uranyl sulphate solutions at 50 to 60°C with a large excess of hydrogen peroxide. The concentration of the starting solution was 20 g/l, pH = 2; of the final solution pH = 1. For the determination of sodium entrapment Na^{24} was used. The results obtained indicate that within the range investigated (0.01 to 0.02 M) the concentration of sodium in the starting solution has little influence on its entrapment in the precipitate (0.01 to 0.009% of the sodium present in the solution). For the determination of cesium its radioactive isotope was used (with and without a carrier). The experimental results indicate that: (a) entrapment of cesium by the peroxide precipitate is hundreds of times higher

than that of sodium and undoubtedly can not be explained by the adsorption mechanism; (b) similarly to sodium, the percent entrapped is independent of concentration. According to the literature, potassium is also entrapped in uranium peroxide precipitates. Therefore, it can be assumed that the increase in the degree of entrapment increases with increasing ionic radius, or with the strength of the corresponding formations in the precipitate. There are 2 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: G.W.Watt, S.L.Achorn, I.L.Marley, J.Am.Chem.Soc., 72, 8, 3341 (1950).

SUBMITTED: May 24, 1960

BR

ACCESSION NR: AP4042337 S/0138/64/000/007/0007/0010

AUTHOR: Rumyantseva, Z. M., Golitsina, A. A., Farberov, M. A., Epshteyn, V. G., Lazaryants, E. G., Yemel'yanov, D. P., Kosmodem'yanskiy, L. V.

TITLE: Synthesis and use of butadiene methacrolein latexes

SOURCE: Kauchuk i rezina, no. 7, 1964, 7-10

TOPIC TAGS: tire manufacture, tire cord saturation compound, saturated cord bond strength, latex containing saturation compound, latex SKMA-3, butadiene methacrolein latex, aldehyde group content, polymerization process, latex synthesis, rubber SKS-30 AM, rubber NK, synthetic rubber, SBR rubber

ABSTRACT: Latexes were synthesized by copolymerization of butadiene and methacrolein at 5C in acid (pH 2.5-3.0) and alkaline (pH 10.0-10.5) media, with methacrolein in the initial emulsion varying from 1 to 30 parts by weight (recipes given). Conversion levels of 70% were attained and the kinetics of the process are described in detail. Compounds of the synthesized latexes with resorcinol-formaldehyde (RF) or glycol-resorcinol formaldehyde (FR-12) resins (12 parts by weight of resin per 100 parts of polymer) were used to saturate tire cords. The cords were then tested by multiple deformation, static peeling and N methods for the strength of their bond to resins from NK, SKB and SKS-30

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AM rubbers. It was found that bond strength depends on the content of aldehyde groups in the latex and was best for a monomer mixture with 20% methacrolein by weight. Polymerization at 5C, a conversion level of 70%, Defo hardness levels of 1500 to 3000 g and the use of a rosin soap as an emulsifier promoted bond strength. Comparative evaluation of the synthesized latex, named SKMA-3, indicated it to be superior in bond strength over compounds based on carboxyl containing and vinyl pyridine latexes. Orig. art. has: 4 tables and 2 graphs.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka (Scientific Research Institute for Synthetic Rubber Monomers); Yaroslavskiy tekhnologicheskiy institut (Yaroslav Technological Institute); Yaroslavskiy shinny*y zavod (Yaroslav Tire Factory)

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Card 2/2

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(Economics, Mathematical) (Programming (Mathematics))